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REMARKS

Claims 1-25 are in the case.

Claim 14 has been amended.

I. Rejection of Claims Under 35 U.S.C. §112 Second Paragraph

Claim 14 is rejected under 35 U.S.C. 112, second paragraph as being indefinite.

Claim 14 has been amended to be dependent from claim 10. Accordingly, the rejection of claim 14 under 35 U.S.C. §112, second paragraph is moot.

II. Rejection of Claims Under 35 U.S.C. §103(a) over US 4,941,921 in View of US 6,273,928

Claims 1-9, 11-13, 24 and 25 are rejected under 35 U.S.C. 103(a) over US 4,941,921 (hereafter "'921") in view of US 6,273,928 (hereafter "'928").

'921 discloses a liquid solution prepared by dissolving boric acid or a borate in monoethanolamine or polyhydroxyorganic compound and optionally water at a temperature of up to 70°C (col. 3, line 62-col. 4, line 3; col. 7, lines 4-11). '921 also discloses a process of making a starch glue including a step of adding the solution to a reaction or mixing zone (col. 6, lines 50-57; lines 65-68; col. 7, lines 4-11).

'928 discloses a pourable aqueous borate-containing suspension that includes sodium pentaborate, a swellable clay and a polysaccharide (col. 1, line 65-col. 2, line 3). '928 also discloses a method of treating crops by diluting the suspension (col. 6, lines 16-20; lines 59-60).

Claim 1 is directed to a method of using a water-based boron-containing suspension as a source of boron additive in a starch-based adhesive. The suspension is substantially free of organic solvent(s). The method includes introducing the suspension into a mixing or reaction zone during the preparation of the starch-based adhesive.

The Office Action is correct in noting that '921 fails to disclose the use of a water-based boron-containing suspension that is substantially free of organic solvent(s) in a starch-based adhesive. Moreover, '921 also does not teach or suggest to modify its process by substituting its organic solvent based borate solution with an aqueous borate containing suspension.

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'921 discloses, in its background, a repeatedly encountered problem of continuously metering boric acid or borax decahydrate in solid form during the manufacturing a starch-based adhesive (col. 1, lines 35-46). '921 discloses that solid boric acid or borax decahydrate forms lumps during the addition, which either stop the feed or cause an uneven addition (col. 1, lines 37-41). '921 discloses that the use of a solution would avoid the problem because metering liquids continuously is technically easier than metering solids (col. 1, lines 47-51). '921 further discloses that the use of an aqueous boron solution in making the starch glue is, however, impossible because the solubility of the boron compounds in water is too low (col. 1, line 54-56). '921 discloses that the total water present in the adhesive has an upper limit and the large part of water must be associated with the starch, leaving only a relatively small amount of water to solubilize boric acid or borax decahydrate (col. 1, line 57-60). '921 discloses that, to avoid excess water levels in the final starch adhesive and to reduce the cost of storage and transportation, it is necessary that the solubility be at least 10 wt%, preferably at least 15 wt% at a mixing temperature of 20-40°C, whereas the solubility of boric acid and borax decahydrate is only 4% at 20°C (col. 1, line 61-col. 2, line 3). '921, therefore, provides an organic solvent-based borate solution that optionally contains water to resolve its problems (col. 2, lines 4-9). '921 specifically discloses that the use of an organic solvent such as polyhydroxyorganic compounds e.g., glucose in the starch glue is beneficial because it enables the starch content of the glue to be increased with improved bonding strength and less water to be evaporated (col. 4, lines 41-49). Therefore, one of ordinary skill in the art would have no reason to substitute an organic solvent-based solution of '921 with an aqueous suspension.

'928 does not cure the deficiencies of '921. '928 does not teach or suggest the use of a water-based boron-containing suspension in a starch-based adhesive, either. '928 discloses an aqueous borate-containing suspension that includes suspended particles (col. 3, lines 19-20), and boric acid particles (col. 6, lines 57-58). '928 discloses that the suspension may be sprayed directly, or alternatively, poured for dilution by water or aqueous systems for application e.g., onto crops, or for other applications where there is a need for aqueous soluble borate suspensions (col. 2, lines 15-20). Such a disclosure does

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not teach or suggest that the suspension is a substitute for an aqueous solution, let alone an organic solvent based solution of '921. '928 specifically discloses that the suspension is used for treating crops e.g., as fertilizer (col. 4, lines 40-67). '928 also discloses that small amounts of other treatment agents e.g., micronutrients, herbicides, fungicides or insecticides may be incorporated into the suspension (col. 4, lines 51-53). '928 also discloses a method of treating crops including diluting the suspension with water and applying the diluted suspension to a crop (col. 4, lines 54-61). Therefore, one of ordinary skill in the art would have no reason to substitute the aqueous suspension of '928 for treating crops for the organic solvent-based solution of '921 in a starch-based adhesive.

To establish obviousness based upon a proposed combination of references there must be some teaching, suggestion or motivation in the prior art for making the proposed combination. See *Fromson v. Anitec Printing Plates, Inc.*, 132 F.3d 1437 (Fed. Cir. 1997); *C.R. Bard, Inc. v. M3 Sys., Inc.*, 157 F.3d 1340, 1352 (Fed. Cir. 1998). The suggestion or motivation to make the claimed combination must be found in the prior art and must not be based on Applicants' disclosure. See M.P.E.P. 2142. Here there is no such teaching, suggestion, or motivation in either '921 or '928 or in combination to substitute an organic solvent-based solution of '921 in starch glue with an aqueous borate containing suspension of '928 for treating crops; the skilled artisan would have no reason and motivation to do so absent the teachings from the claimed invention.

Further, as '921 teaches the use of an organic solvent based solution to overcome the problem of metering boric acid or borax decahydrate in solid form whereas '928 teaches an aqueous suspension that includes suspended solid particles, also as '921 teaches the use of an organic solvent based solution in starch glue to obtain the benefit of improved bond strength and less water to be evaporated whereas '928 teaches an aqueous suspension that is diluted for the application of treating crops, person of ordinary skill in the art would have no reason and motivation to modify '921 with '928 in the manner suggested by the Office Action at the cost of losing the benefit of improved bond strength and less water to be evaporated. The proposed combination would be undesirable for the intended purpose of '921. If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or

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motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984), MPEP 2143.01 (page 2100-131, rev. 2, May 2004).

Claims 2-9, 11-13, 24 and 25 are also patentable under 35 U.S.C. 103(a) over '921 in view of '928 for the same reason delineated above.

Accordingly, the rejection of claims 1-9, 11-13, 24 and 25 under 35 U.S.C. 103(a) over US 4,941,921 ('921) in view of US 6,273,928 ('928) is unwarranted. Applicants respectfully request that it be withdrawn.

III. Rejection of Claims Under 35 U.S.C. §103(a) over US 4,941,921 in View of US 6,273,928 and US 5,075,360

Claims 10 and 14 are rejected under 35 U.S.C. 103(a) over US 4,941,921 (hereafter "'921'") in view of US 6,273,928 (hereafter "'928'") and US 5,075,360 (hereafter "'360'").

Claims 10 and 14 are dependent from claim 8. The rejection of claims 10 and 14 under 35 U.S.C. 103(a) over '921 in view of '928 and '360 are based on the above refuted rejection that the combination of '921 and '928 discloses the adhesive of claim 8, and therefore, is unwarranted. Applicants respectfully request that it be withdrawn.

IV. Rejection of Claims Under 35 U.S.C. §103(a) over US 5,075,360 in View of US 4,941,921 and US 6,273,928

Claims 16-23 are rejected under 35 U.S.C. 103(a) over US 5,075,360 (hereafter "'360'") in view of US 4,941,921 (hereafter "'921'") in view of US 6,273,928 (hereafter "'928'").

Claims 16-23 are dependent from claim 8. The rejection of claims 16-23 under 35 U.S.C. 103(a) over '360 in view of '921 and '928 are based on the above refuted rejection that the combination of '921 and '928 discloses the adhesive of claim 8, and therefore, is unwarranted. Applicants respectfully request that it be withdrawn.

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Respectfully submitted,

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